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Socioeconomic and Fiscal Impacts

of the

Hidden Hills Solar Electric Generating System on Inyo County

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Contents

Socioeconomic and Fiscal Impacts of the Hidden Hills Solar Electric Generating System on Inyo County

Executive Summary

This fiscal impact report estimates a range of potential economic impacts in jobs and spending under reasonably foreseeable scenarios for a solar project proposed on privately owned land in Inyo County (County). It also assesses changes in the County government's fiscal situation if the proposed project is built, using the best available data and constructing reasonably foreseeable scenarios.

The study evaluates of the following project under review by the County. The Hidden Hills Solar Electric Generating System (HHSEGS) project is proposed by BrightSource. BrightSource proposes to construct and operate two solar fields, each consisting of 250 MW, for a total of 500 MW.

The two scenarios examined differ only in their assumptions of county expenditures resulting from the proposed project.

- Scenario 1: County estimates of mitigation costs associated with the project are assumed to be correct. This amounts to $11.1 million in expenditures during the construction period and $1.7 million in annual expenditures during the operation period.
- Scenario 2: Revised estimates based on new information and analysis of $2.7 million in construction period expenditures and $0.39 annual operation period expenditures generated by our staff are used.

The proposed project is expected to cost in the range of $2.9 billion in total to construct with direct material costs of roughly $2.5 billion, based on publicly available estimates for each of the technologies. Using conservative assumptions about where plant components are assembled, a reasonably foreseeable scenario is that about $189 million of the total value of materials and supplies would be purchased locally over three years. However, only $9.5 million (5 percent) would be spent within Inyo County, and the remaining $179.8 million (95 percent) would be spent in neighboring counties in Nevada. This spending could be expected to directly produce 32 jobs within Inyo County and 605 jobs in the neighboring counties, indirectly create 18 jobs within the County, and induce another 59 positions within the County. Such spending would increase County economic output by $73.8 million and earnings by $12.1 million over the 29 month construction period.

Annual operational payroll and spending on operating costs of the project would be about $15.65 million and $0.54 million, respectively, with 5% going to the County. This will directly produce six jobs, indirectly generate approximately 3 jobs and induce 11 jobs in the County. County economic output would rise by $2.3 million and earnings by $1 million.

The proposed project would generate $198.6 million in sales tax revenues over three years based on the cost estimates presented here and assuming the project does not receive a waiver

from the state, of which $84.5 million would go to the County based on the representations by the project proponents and state tax allocation formulas. Of this amount, $19.1 million would go directly to the County General Fund for city and county operations, and $12.8 million would go to Special Districts in the County as part of the Rural Counties Transaction Tax. $52.6 million would be provided to the county indirectly through the Local Public Safety and Local Revenue Funds. The proposed project is unlikely to qualify for a sales tax exemption for several reasons discussed in this report. After the project becomes operational, the County government would receive $1 million more in property taxes annually from the parcels encompassed in the project's boundaries than is currently being received for those parcels. The proposed project would avoid $22.3 million annually in property taxes with the state exemption.

Construction and operation of the project would require the County to pay additional costs for public safety and other services in the local area. As noted above, we generated scenarios in which the cost of these services would be between $2.7 and $11.1 million per year during construction and approximately $0.39 million to $1.7 million per year during plant operations.

Other County costs outside of Charleston View are not expected to change substantially. Due to extraordinarily high unemployment rates within the County, particularly in the construction trades, it is reasonable to assume that the local labor force will be able to supply all available positions, so the County population and workforce are expected to remain stable. Thus general County government expenditures should remain stable. Although social welfare and public health expenditures may decrease as unemployment decreases and socioeconomic conditions improve, no reliable estimation method is available to calculate those impacts. Such a study would require an in-depth analysis of affected departmental budgets that is beyond the scope of this analysis.

Tables ES-1 and ES-2 summarize the net fiscal impacts during the construction and operational periods for both scenarios. During the 29-month construction period, County agencies would receive about $75.3 to $83.7 million more than it expends. Once operational, the County would annually expend between $0.65 million more than it receives and $0.67 million less than it receives.

Table ES-1. Net Fiscal Impacts on Inyo County: 28 Years, Scenario 1

	Construction (29 MonthTotal)	Operation (Annual)	Net Present Value
Revenues	$86,500,000	$1,100,000	$92,200,000
Expenditures	$11,100,000	$1,700,000	$31,000,000
Net Impact	$75,400,000	($650,000)	$61,100,000

Table ES-2. Net Fiscal Impacts on Inyo County: 28 Years, Scenario 2

	Construction (29 MonthTotal)	Operation (Annual)	Net Present Value
Revenues	$86,500,000	$1,100,000	$92,200,000
Expenditures	$2,800,000	$390,000	$4,100,000
Net Impact	$83,700,000	$670,000	$88,200,000

This analysis has several key caveats which could alter the results and conclusion significantly if the situation changes. The first is that the overall cost estimates are based on published sources and only partially reflect the actual costs that will be revealed once the project is constructed and assessed by the County Assessor. The proportion of the project costs subject to taxation also could vary as (1) the amount of material sales subject to local sales tax could vary, and (2) the County Assessor may determine that differing proportions of the plants qualify for the property tax exemption. Perhaps the largest caveat is that the manufacturing plants for the projects mirrors will not qualify for a sales tax exemption as well. If it did qualify, the project could have a net negative direct fiscal impact on the County in Scenario 1. And finally, the calculations of the local shares of property and sales tax are complex and uncertain due to changing fiscal conditions at the state level.

This report that follows contains further discussion of the rationale and supporting documentation for this summary.

1.0 Introduction

The HHSEGS project is proposed by BrightSource Energy, Inc. BrightSource proposes to construct and operate two 250 MW solar power plants (500 MW combined) on privately owned land in the Charleston View area of Inyo County, adjacent to the California/Nevada border. BrightSource has two purchase agreements (PPA) with Pacific Gas and Electric Company (PG&E) to deliver power that have been approved by the California Public Utilities Commission (BrightSource Energy, Inc, 2011).

This report estimates potential economic impacts in jobs and spending, under a reasonably foreseeable scenario, from the construction and operation of the Hidden Hills project. It also assesses changes in Inyo County (County) government's fiscal situation if the proposed project is built. The economic impacts are derived from direct costs based on publicly available estimates for each of the technologies, and these costs are used in a regional economic input-output model. The economic impacts show jobs creation and increased earned income in the County.

The fiscal impacts reflect both increased net revenues and changes in County costs. This report addresses the direct fiscal impacts on the County's government agencies of the construction and operation of the plants, and not from any other induced economic activity. This report does not address the larger question of how overall changes in economic activity might affect the County's fiscal situation due to the complexity and uncertainty of the required analysis. In other words, it does not fully account for either the changes induced by increased local employment on County expenditures or revenues. The revenue changes reflect property and sales taxes generated by the project directly. The costs reflect those created directly either by the project itself, or the change in employment at the project locations.

2.0 County of Inyo Socioeconomic Profile

The Hidden Hills Solar Electric Generating System would be located on private property in the Charleston View area in eastern Inyo County, adjacent to the California/Nevada border. The County's 2010 population was estimated to be 18,546, and the State Department of Transportation forecasts an increase to 20,279 by 2020 and 21,592 by 2030. Most of the population resides in the County's unincorporated areas, with the three largest cities and Census-designated places being Bishop, with a population of 3,879, Dixon Lane-Meadow Creek, with 2,645 residents, and West Bishop, with 2,607 residents (United States Census, 2012a; California Department of Transportation, 2011).

Inyo County's 2010 annual average unemployment rate reached a 15-year high of 10 percent, which was still below the State's average jobless rate of 11.7 percent (U.S. Bureau of Labor Statistics, 2012). At $29,966 per capita (in 2008), personal income is 2.7 percent above the statewide average of $29,188, with the lower proportion of very-low-income people than the statewide average — 11.9 percent of the population have incomes below the poverty level in the County, compared to 13.7 percent across the state (U.S. Census Bureau, 2012b).

Table 2-1. Employment Profile of the Study Area, 2011

Industry	Inyo County Labor Force
Total Farm	50
Construction and Mining	200
Education and Health Services	450
Financial Activities	150
Government	3220
Information	70
Leisure and Hospitality	1,520
Manufacturing	250
Professional & Business Services	250
Trade, Transportation, Utilities	200
Other Services	180
Total Employed	*8480*
Unemployment Rate	*9.2%*

Source: CAEDD, 2012;

Table 2-1 displays the employment in the County by sector for 2011, the most current year available (CAEDD, 2012). As indicated in the table, government agencies are the number one employer in Inyo County. In 2008, the annual average County unemployment rate was 6.5 percent. The recession increased this rate to 9.2 percent in 2009, and the most recent reported rate for December 2011 also is 9.2 percent. This is a slight decrease from the annual average of 10 percent in 2010 but still one of the higher unemployment rates for the country in recent years (U.S. Department of Transportation, 2011).

3.0 Economic Influence of the Hidden Hills Solar Electric Generating System

The project has two distinct phases that have different economic consequences for the County. Construction is the first short-term phase, which will take place over a specified period, planned as 29 months in this case. This entails a fairly intensive amount of activity with substantial expenditures and material components. Operation and maintenance is the second, longer-term phase. The majority of the costs during the second phase will be for operation staff of the power plants. These expenditures, uses of resources and changes in the labor force will result in changes in the local economy and associated governmental activities.

BrightSource provided much of the required cost estimates for construction and operation of the proposed project (BrightSource Energy, Inc., 2011a; BrightSource Energy, Inc., 2011b; BrightSource Energy, Inc., 2012). The cost assumptions presented here are consistent and within the range of publicly available published reports and models, and represent a reasonably foreseeable outcome. Unless explicitly stated, this report assumed manufacturing and non-labor operating expenditures would occur out of the County. The project proponents have their corporate offices or headquarters located outside of Inyo County, and no significant solar panel manufacturing plant is locally located. While a certain proportion of these expenditures are likely to occur locally, there is insufficient detail from any source to quantify this amount. Construction and operating labor costs are allocated between Inyo and outside of the County (mostly in Nye and Clark Counties in Nevada) based on the employee locations provided by the applicants.

3.1 BrightSource's Proposed Hidden Hills Solar Electric Generating System

The HHSEGS is a proposed 500 MW AC PV power plant. The proposed project would be developed within an approximate 3,277 acre area, with approximately 6,000 additional acres assumed to be used for mitigation measures. The plant would be composed of two solar fields and associated solar facilities. The two solar plants will use heliostats—elevated mirrors guided by a tracking system mounted on a pylon—to focus the sun's rays on a solar receiver steam generator (SRSG) atop a tower near the center of each solar field (BrightSource Energy, Inc., 2011a). Table 3-1 details the assumptions and costs for construction and operation of the HHSEGS plant. Data on the construction period and labor force size were provided by the applicant, BrightSource, as was data on per worker labor costs. Certain cost elements were then allocated based on the U.S. Department of Energy's National Renewable Energy Laboratory's (NREL) Jobs and Economic Development Impact II, or JEDI II input-output model (NREL, 2011). The land purchase costs, which are the basis for the assessed values of the land portion of the secured property, are based on the average per acre price derived from data on 2011-2012 land sales in the Charleston View Area (Deputy County Counsel, 2012a).

Table 3-1. HHSEGS Economic Parameters and Costs

PLANT SIZE	
Production (AC Net)	500
Installed rating (DCe)	649.4
Acreage	9277
Land cost per acre	$3,312
Total land cost if purchased – Inyo County	$30.7 million
Months of construction period	29
CONSTRUCTION COSTS	
Cost of construction	$2,950 million
Supplies & materials costs	$2,550 million
Local construction expenditures – Inyo County	$9.5 million
Local construction expenditures – outside county	$179.8 million
Annual Average Local construction payroll – Inyo County	$3.3 million
Annual Average Local construction payroll – outside county	$62.9 million
Average monthly number of construction workers – Inyo County	32
Average monthly number of construction workers – outside county	605
Average salary & wages – Inyo County	$2.3 million
Average salary & wages – outside county	$43.8 million
Average benefits & other overhead costs – Inyo County	$1.0 million
Average benefits & other overhead costs – outside county	$19.1 million
OPERATION INPUTS	
Annual operation and maintenance cost	$16.2 million
Local operation expenditures – Inyo County*	$0.8 million
Local operation expenditures – outside county	$15.4 million
Labor portion of annual operation cost – Inyo County**	$0.8 million
Labor portion of annual operation cost – outside county	$14.9 million
Annual Number of FTE permanent positions – Inyo County	6
Annual Number of FTE permanent positions – outside county	114
Labor wage portion of annual operation cost	$10.9 million
Average salary & wages – Inyo County	$0.5 million
Average salary & wages – outside county	$10.4 million
Average benefits & other overhead costs – Inyo County	$0.2 million
Average benefits & other overhead costs – outside county	$4.5 million

Source: BrightSource, 2011.
* Insufficient detail available to parse these expenditures into local and outside of county shares.
** Includes wages, benefits, and other employer costs.

4.0 Regional Economic Impact Forecast Methodology and Results

The economic significance of the proposed solar project to the Inyo County economy can be assessed using an input-output model of the County's economy based on the NREL JEDI input-output model system of regional economic accounts (Lantz and Mosey, 2009). The "region" here is defined as the County. These County multipliers for employment, wage, and salary income and output (economic activity), and personal expenditure patterns included in JEDI are adapted from the IMPLAN Professional model (MIG, 2011). In turn, the IMPLAN data set is derived from U.S. Bureau of Economic Affairs data. These regional model assesses impacts to such variables as industry output (or gross sales), labor income (employee compensation and self-employed proprietors' earnings), other property ownership–related income (corporate profits, dividends, rents and other returns on capital assets), indirect business taxes (mainly sales and property taxes), and employment (full- and part-time jobs). These models are commonly used to evaluate economic activity in which changes in the total demand for output of the industries being studied results in changes in inputs and outputs by the local economic sectors. For example, these models have been used to estimate the impacts of such projects as construction and operation of new factories, development of tourism facilities, and military base closures.

Economic activity is measured with two important concepts. The first is "total output," which is the total expenditures and receipts associated with all transactions in the economy. However, it includes both activity which may only be a simple transfer with little associated economic production as well as the actual economic activity that is facilitated by or facilitates the transfer.

The second concept of "value added" measures the actual economic activity associated with a transfer, and is a component of total output. It is the component that adds actual wealth to the economy. Value added is the economic value added to a product by an industry beyond the costs of purchasing the necessary inputs from other industries, as measured by labor and property income and indirect taxes. Each step of the production, delivery, and service process adds incremental value. The cumulative value added across these industries, plus any out of state imports, will equal the total cost to provide the final product to the end consumer. The sum of all of this value added for California is known as the "Gross State Product" or GSP. The GSP excludes out of state imports, and does not include the multiplier effect. The GSP is directly analogous to the U.S. Gross Domestic Product or GDP, whose growth rate is followed closely in the business and economic press.

The JEDI model uses multiplier analysis to estimate the total change in County economic activity due to an initial change in construction and plant operational activity. The total change in economic activity consists of three parts: (1) the direct impact, (2) the indirect impact, and (3) the induced impact. The direct impact is simply the initial change in activity. For example, if farm sales fall by $1 million, the direct impact is the change to farm sales, farm income, farm employment, and tax receipts caused by the fall in farm output. The indirect impact is the change in output, earnings, and employment to all businesses that are linked to the affected

downstream sector and impacted by reduced demand for its inputs. The induced impact is the change in regional output, earnings, and employment caused by changes in household income and spending associated with the direct and indirect impacts. Together, direct, indirect, and induced impacts capture the full range of changes in County economic activity stemming from an initial direct change in demand for a good or service. The assumptions about the economic relationships that induce spending and job creation are embedded in the JEDI model and are complex and extensive. The reader is referred to the JEDI and IMPLAN documentation to understand these assumptions and data sources in greater depth.

4.1 Issues in Modeling Regional Economic Impacts to the County from the Proposed Solar Project

Regional economic models such as RIMS, IMPLAN and JEDI can give useful insights into how policy choices might affect the economy. However they have several limitations on their results. The most important is that they do not account for changes in the economy over time. They rarely capture such technological changes such as the introduction of personal computers. Another shortcoming of input-output models such as IMPLAN or RIMS is that they do not account for relative price changes. For example, if beef becomes cheaper than chicken, the model does not reflect how beef consumption would increase and chicken would fall. Because of these limitations, regional models tend to overstate the economic impacts from large projects or policy changes, especially as the analysis extends further out into the future.

Three particular issues are of note for this regional economic analysis. First, some of the economic activity and flows associated with the proposed project occur outside of, or "leak" from, Inyo County economy into other counties. "Leakage" occurs in a regional economy when goods and services are bought outside of the local economy. Such leakage is common in every regional modeling exercise; however, there are some additional considerations in this case. First, most of the solar panel manufacturing would occur outside of the County. And second, a large segment of the labor force for both construction and operation would commute from outside the County due to the remote location of the proposed project. Often there is a counterbalancing inflow, as will occur with this proposed solar project.

Finally, The JEDI model assumes that all construction for the project takes place in one year and that the plant begins operating in that same year once construction is complete. This is problematic because most large scale projects are not completed within one year. Construction of the Hidden Hills plant will span 29 months, not including month 0 (BrightSource Energy, Inc., 2011a). In order to calculate the construction costs by year, we generated a separate version of the JEDI model for each year in which construction occurs and another version of the model to determine the O&M costs and impacts. To do so, we assigned a share of the total project construction costs to each year based on the proportion of construction employees over the life of the project working that year using detailed data on the project timeline and construction personnel provided in the HHSEGS AFC and revised in a Data Response (BrightSource Energy, Inc., 2011b)

The project is expected to begin construction in the third quarter of 2012, with a three month delay between the start of plant 1 and plant 2, and end in Q2 2015.[1] This allows for an on-line data of Q1 2015 for plant 1 and Q2 2015 for Plant 2. Given this information, we determined that construction would occur for three months in 2012, 12 months in both 2013 and 2014, and three months in 2015.

Table 5.10-16R1 of the HHSEGS AFC provides number of construction personnel by month for the duration of the construction period. Using the construction timeframe noted above, each month was assigned to one of the four construction years. We summed the total monthly construction workforce to determine the annual construction workforce for each of the four years in which construction takes place. We found that of the 18,589 construction personnel employed throughout the total construction period, 2.5% are employed in year 1 of construction, and 54.9%, 41.7%, and 0.9% are employed in the following years.

We multiplied the annual employment percentage values by the $2.7 billion in total construction costs to calculate the construction costs for each year of the project, which were then entered into the JEDI model for the respective years. To ensure that no O&M impacts were reported in the construction year models, we set all O&M costs to zero and set the local share of property taxes, debt & equity financing/repayment, insurance and land purchase/lease parameters to zero. These items are all used to compute the O&M impacts but have no effect on the construction impacts.

For the O&M version of the JEDI model, we used the estimated O&M costs provided in the AFC and set the local share of the items listed in the previous paragraph to the appropriate values. We set the local share of construction-related sales tax to zero as sales tax generates impacts from plant construction in the model. To ensure that the proper property tax value was computed and used in the model, we entered the total construction period costs; however, we set the local share of all construction-related costs to zero to ensure that the model would compute only O&M impacts.

Impacts were measured in terms of County output, earnings, and employment. Economic output accounts for the total value of forgone goods and services produced or sold in Inyo County, including the value of imports into the County. These parameters consider only the economic value generated within Inyo County. Earnings represent the portion of value-added that accrues to wage earners and business proprietors. Employment counts the number of full- and part-time positions created by the construction and operation of the proposed project.

[1] The schedule was changed from that in the AFC and reflected in the numerous data submissions by Bright Source. The project now is expected to begin construction in the first quarter of 2013, with a three month delay between the start of plant 1 and plant 2, and end in Q4 2015. This allows for an on-line date of Q3 2015 for plant 1 and Q4 2015 for Plant 2.

4.2 Summary of Modeling Results for County Economic Impacts

Table 4-1. Proposed Project Economic Impacts during Construction 2012-2015

Impact	Jobs	Earnings $million (2012)	Output $million (2012)
Project development and onsite labor impacts	32	$8.1	$8.3
Module and supply chain impacts	18	$1.1	$51.5
Induced impacts	59	$2.9	$14
Totals	109	$12.1	$73.8

Table 4-2. Proposed Project Annual Economic Impacts during Operation - 25 Years

Impact	Jobs	Earnings $million(2012)	Output $million (2012)
Onsite labor impacts	6	$0.7	$0.7
Local revenue and supply chain impacts	3	$0.1	$0.4
Induced impacts	11	$0.3	$1.2
Totals	19	$1.1	$2.3

The economic impacts from the project will occur in two phases. The first will last about 29 months as the project is constructed. Table 4-1 shows a reasonably foreseeable scenario for increased employment, earnings and output, or product and services sold, within Inyo County for the 2012-2015 period, based on the assumptions specified here and included in the JEDI model algorithms and data. The modeling results show that 32 jobs would be created in the County directly from construction activity and another 77 would be induced through increased activity in the County.[2] Total County earnings would rise by $12.1 million, and total output by $73.8 million for the full 29 month period, or about $5 million annually for earnings and $30.5 per year for output.

The second phase is the long-term operation of the proposed plants, which is expected to extend at least 25 years based on financing projections used in the industry and the terms of the respective PPAs. Table 4-2 shows a reasonably foreseeable scenario for the period beginning as early as 2015, depending on the operational date for the plant. BrightSource estimates six jobs out of 120 total jobs will be created for and filled by local residents. Another 14 jobs would be induced through local activity and purchases, for a total of about 20 jobs created County-wide. Total annual earnings would increase by $1 million and output by $2.3 million.

No economic losses from reduced agricultural activity are projected as the reasonably foreseeable impact is negligible. As discussed in AFC Section 5.6 Land Use, there are currently no agricultural uses within the HHSEGS site.

[2] Note that the JEDI model results will differ from the project specific inputs to the model, as it segments job creation pathways.

5.0 Fiscal Impacts on Inyo County

The proposed solar project, located within the County, would use services provided by various local government agencies, such as public safety and health inspection, and would generate additional revenues for those agencies, such as property and sales and use taxes. Construction and operation of the solar project will also generate additional tax revenues from increased economic activity at other local businesses through indirect and induced economic effects from both project expenditures and increased employment. On the other hand, the solar project would include active solar systems under AB 1451 (Revenue and Taxation Code Section 73), which states that that fully qualifying active solar systems are 100 percent exempt and dual-use equipment is 75 percent exempt, and would not be considered new construction. Therefore, a significant portion of the total assessed value of each project would be exempt from property taxes.

The project applicant is not aware of sales and use tax exemption that applies to the project (CEC, 2012c). Sales and use tax generated by the project depends on the designation of the "point of sale" and the ownership structure of the facility. The County would receive none of the sales tax if the "point of sale" is designated outside of Inyo County. However, several factors make such a designation highly unlikely, as discussed below. For this reason, we presume that the sales and use taxes will accrue to Inyo County.

Public service expenditures — such as expenditures on public health and safety — are induced by changes in the population, workforce,[3] socioeconomic conditions such as unemployment, or facilities in an area. In some cases, such as for water and other utility charges, these costs are paid for directly through property tax increments or usage bills. In other cases, new services are paid for from general fund revenues, and growth may or may not contribute sufficient new sources of revenue to pay for itself.

From an economic perspective, it is the "marginal costs" that are created by economic or population growth that must be examined to determine whether or not a new project produces additional public sector costs. That is, a large portion of public service expenditures are fixed — they cannot be changed quickly. In many cases capital-related costs are sized with extra, or flexible, capacity. Other costs, such as staffing, may vary with demand and funding, but also can be "lumpy", that is, an employee is hired after a threshold level of demand or funding is added.

Fixed costs such as school classrooms, fire stations, and roads will generally not be affected by a small increase in demand. For example, a dozen or more students can typically be added to a school with 500 students without creating a need to enlarge the facility. Similarly, two to three additional calls a year to the fire and police departments will not create the need for a new fire station, or even another officer. However, an additional student, or extra police visit, will result in additional costs associated with supplies, transportation, and other operating expenses. A

[3] Population and employment may differ as a community may have significant net inflow or outflow of commuters. For example, San Francisco has a population of about 800,000, but its daytime "population" including workforce is about 1.4 million.

series of such small incremental increases or a single large project can reach a cumulative threshold where a new school or fire station would be required.

Estimating both the marginal costs from small-scale development and the cumulative effects of a series of such development, are the basis of the methodology used by the County in preparing its *Hidden Hills Solar Energy Generating System Project Socio-Economic Impacts to Inyo County* that is the source document for its development impact fees (County of Inyo, 2012). Considering the geographically focused cumulative impacts is the latter approach used in estimating the direct costs created by the proposed project.

The public costs engendered by the proposed solar project can be illustrated by examining the average cost associated with the provision of various public services. Average costs are different from marginal costs in that they simply reflect a per capita expenditure associated with a particular population, but say little about how those expenditures change given changes in the population served. Likewise, average costs do not account for revenues generated by activities (e.g., reimbursement for building code enforcement), and as a result can overstate per capita expenses. On the other hand, marginal costs estimate the specific cost of adding one additional unit of service, for example, teaching one more student.

For some activities, the private provision of quasi-public services may act to offset any additional demand that the facility may otherwise have caused. For example, the primary burden the solar project places on police services is the need for additional patrols to prevent and investigate crimes against property. In this case the use of security devices and appropriate facility design may minimize the need for professional police services.

5.1 Direct Government Service Costs for the Proposed Project

The proposed solar project would cause the County to incur direct costs to serve the public safety, health protection, and roadways requirements in the immediate vicinity of the project.

This section presents the county's estimates of direct government service costs and our own, more conservative, estimates, which form the basis of the two expenditure scenarios used in this analysis.

Scenario 1 relies on County expenditure projections developed by nine Inyo County Departments. The County recommended the following, as well as many additional, service upgrades to meet the increased demands in the Charleston View area:

- The Inyo County Office of the Sheriff will require seven new positions. Training is required for each of the new officers, and new officer will be provided with equipment (patrol car, uniforms, etc.) and housing.
- The Department of Public Works will need one additional road department position for the life of the plant and one 30-month limited term position.

Table 5-1 shows the recommended annual mitigation costs proposed by the County for its service agencies or departments. The total costs estimated by the managing County departments during the construction period would be $11.1 million and $1.7 million annually during the operating period for serving a solar project in Inyo County.

Table 5-1. Annual Mitigation Costs Associated with HHSEGS Construction and Operation: Scenario 1 (Inyo County Estimates)

County Service	Construction Period	Operation Period(Annual)
Inyo County Health and Human Services Department	-	$188,115*
Inyo County Assessor Department	$120,000	$120,000
Inyo County Sheriff Department	$2,130,966	$1,269,120
Inyo County Public Works Department	$8,157,000	$78,500
Inyo County Information Services	$237,600	
Inyo County Agricultural Department	$150,000	$50,000
Inyo County Waste Management Department	$156,000	-
Inyo County Motor Pool Department	$33,200	-
Inyo County Water Department	$145,000	$8,000
Total	$11,129,766	$1,713,735

Source: CEC, 2012

* Annual costs shown are for the first year. They are estimated to increase 5% per year.

Table 5-2. Annual Mitigation Costs Associated with HHSEGS Construction and Operation: Scenario 2 (Staff Estimates)

County Service	Construction Period	Operation Period (Annual)
Inyo County Health and Human Services Department	$470,000	-
Inyo County Assessor Department	-	$50,000
Inyo County Sheriff Department	$871,000	$330,000*
Inyo County Public Works Department	$1,213,000	-
Inyo County Information Services	$237,600	-
Inyo County Agricultural Department	-	-
Inyo County Waste Management Department	-	-
Inyo County Motor Pool Department	-	-
Inyo County Water Department	-	$8,000
Total	$2,791,600	$388,000

Note: * - Additional annual cost to the Sheriff is for three years.
Totals may differ due to rounding.

Scenario 2 consists of Staff estimates of county expenditures. Table 5-2 shows the Staff's estimates of direct government service costs for various county agencies as a result of the proposed project. Mitigation costs in this scenario are significantly lower than in Scenario 1, with estimates of $2.8 million for the construction period and $0.4 million annually during the O&M period. A detailed discussion of how we arrived at these estimates is presented below.

Construction Housing

BSE and Bechtel considered the project area for the similarly-configured Ivanpah Solar Energy Generating Station (ISEGS) to have a two-hour commute radius for construction. The population within this radius included large numbers of construction workers, so it was assumed that they would commute to the construction site.

"All workers would reside within commuting distance of the proposed ISEGS site, and therefore would not need to move into the area. Therefore, no construction or operation-related impacts are expected on the local housing supply availability or demand."

Similarly, the Hidden Hills site is located within one hour of the suburbs of Las Vegas, Nevada, and Pahrump, Nevada with a population of 36,441 in the 2010 U.S. Census is less than 15 minutes away (BrightSource Energy, Inc., 2011a). Given that Valley Electric Association, the electric cooperative headquartered in Pahrump, Nevada, is promoting the siting of large-scale renewable power projects in its service territory, Pahrump can expect an influx of power plant construction employees for other projects as well.

Health and Human Services

In a review of Energy Commission Staff Assessments and environmental documents for 18 remote solar and natural gas-fired power plant projects, none have indicated additional costs to county health services (County of San Luis Obispo Department of Planning and Building, 2011a; County of San Luis Obispo Department of Planning and Building, 2011b; California Energy Commission, 2010a; California Energy Commission, 2010b; California Energy Commission, 2010c; California Energy Commission, 2010d; California Energy Commission, 2010e; California Energy Commission, 2010f; California Energy Commission, 2010g; California Energy Commission, 2010h; California Energy Commission, 2010i; California Energy Commission, 2009a; California Energy Commission, 2009b; California Energy Commission, 2008; California Energy Commission, 2006a; California Energy Commission, 2006b; California Energy Commission, 2000; California Energy Commission, 1999). While Inyo Health and Human Services indicated in their December 12, 2011 letter that additional funding would be required on an ongoing annual basis, the need for this additional funding seems to be based on costs incurred during construction, not necessarily during operation (County of Inyo, 2012). With a peak construction workforce of 1,033 personnel during Month 14 of construction, assuming that construction workers have been drawn from outside the study area, Health and Human Services costs for additional services appears reasonable for the duration of construction (BrightSource Energy, Inc., 2011a). It is likely that the operational workforce of 120 would be largely drawn from the local population and if not, this increase would not represent a

substantial increase in demand on services. In addition, this population is likely to be employed and of working age so demands on social services should be less than the average experienced in the region. Consequently, the ongoing annual cost projected by Health and Human Services has been extrapolated for the 29-month duration of construction instead of as an ongoing cost. However, these costs would not create a significant environmental impact and are beyond the regulatory purview of the Commission.

Assessor

The County projected that the average annual cost for the Inyo County Assessor's Office would be approximately $120,000. Additionally, according to recent correspondence with Gruen Gruen + Associates, the assessment of the Coso Geothermal project cost the Assessor's Office approximately $200,000 per year (Gruen Gruen + Associates, 2012). These costs largely represent legal costs that would occur on an ongoing basis following the completion of construction. For the HHSEGS, staff estimates that ongoing annual legal costs to the Assessor's Office could be $50,000 (CEC, 2012d). However, given that the majority of these costs are for adversarial legal proceedings, it would be presumptive to require BSE to pay the County's legal fees prior to the determination of the outcome of proceedings that may not even occur. The Staff also believes that Inyo County can generate substantial savings by sharing information and resources with neighboring San Bernardino County which will be assessing the virtually identical Ivanpah Solar Energy Generating Station.

Sheriff

Reviewing the Energy Commission Staff Assessments for 16 remote solar and natural-gas fired power plants, project-related increases in property damage and theft were not identified as issues that would substantially increase demands on police protection services. For the projects reviewed, law enforcement response times ranged from three minutes to one hour. Each project included security fencing and nighttime lighting, with most projects specifying the inclusion of razor wire or barbed wire on the fencing. None of the projects indicated an increased demand on police protection that would require additional staffing or law enforcement facilities. For the solar and natural-gas fired power projects that did not specifically include security measures in their project descriptions, Energy Commission staff required Conditions of Certification for the power plants to implement a minimum level of security consistent with the 2002 North American Electric Reliability Corporation Security Guidelines for the Electricity Sector and the 2002 U.S. Department of Energy draft Vulnerability Assessment Methodology for Electric Power Infrastructure. These Conditions of Certification included perimeter fencing and breach detectors, guards, alarms, site access procedures for employees and vendors, site personnel background checks, and law enforcement contact in the event of a security breach (California Energy Commission, 2010a; California Energy Commission, 2010b; California Energy Commission, 2010c; California Energy Commission, 2010d; California Energy Commission, 2010e; California Energy Commission, 2010f; California Energy Commission, 2010g; California Energy Commission, 2010h; California Energy Commission, 2010i; California Energy Commission, 2009a; California Energy Commission, 2009b; California Energy Commission, 2008; California Energy Commission, 2006a; California Energy Commission,

2006b; California Energy Commission, 2000; California Energy Commission, 1999). Additionally, discussions with San Bernardino County Sheriff's Department have indicated that the Ivanpah, Kramer Junction, Daggett, and Harper Dry Lake Solar Energy Generating Systems have not increased the number of incidents requiring response by the Sheriff's Department (California Energy Commission, 2012a; California Energy Commission, 2012b).

Based on a review of other power plant projects and comments made in the May 9, 2012 Staff Workshop, staff estimates that two additional resident deputies would be sufficient to provide adequate police protection and response times. With this increase in staffing at the Tecopa/Shoshone Substation, it seems that patrol coverage would be sufficient such that an additional substation building would be unnecessary. Assuming an average tenure for officers of 12 years based on U.S. Bureau of Justice Statistics national data, and an average remaining tenure of officers currently employed by the County of six years, the officers hired in response to HHSEGS construction would replace other officers through attrition or retirement in six years. Consequently, the cost projection for salary and annual training for these new officers is estimated for the 29 months of construction and the remaining three years and seven months following completion of HHSEGS construction.

For this cost projection, the monthly resident deputy allowance of $400 is used to estimate housing costs to the County, for a total of $24,000 for HHSEGS construction at an annual cost of $9,600.

Revising the County Sheriff's Hiring and Recruitment, Academy Training, and Initial Startup costs for two additional employees instead of seven (including the officers' salaries and housing for the duration of construction), initial and construction costs would be reduced from $2,130,966 to $871,295.

Eliminating the cost of the proposed Substation would eliminate the ongoing annual projected utilities and maintenance costs and personnel costs would be reduced proportionately for two instead of seven additional personnel. This would reduce ongoing costs from $1,269,120 to $329,998.

Public Works

Inyo County Public Works had projected that severe truck traffic loads from Hwy 127 along Old Spanish Trail Road to the HHSEGS site would require reconstruction of the entire 30.1-mile length of Old Spanish Trail Road. The projected cost estimates provided by the Department of Public Works for repair and maintenance of Old Spanish Trail Road ($8,157,000 during construction and $78,500 annually during operation) appear consistent with other road maintenance costs determined for other projects on a cost per mile basis (County of Inyo, 2012). However, BSE has stated that 100 percent of truck trips and 95 percent of all construction workforce traffic would come and go from the SR 160 along Old Spanish Trail Road. Only five percent of construction workforce traffic would use Old Spanish Trail Road west of the project site to Hwy 127 (BrightSource Energy, Inc., 2011a). Consequently, the 3.4-mile segment of Old Spanish Trail Road in Inyo County from the western boundary of the HHSEGS east to the Nevada state line would receive 95 percent of all construction traffic including all

truck trips and would be subject to the most severe damage from construction. Doug Wilson, Interim Director of Inyo County Public Works acknowledged at the May 9 Workshop that the County was unlikely to incur large costs on Old Spanish Trail west of the plant site (CEC, 2012d).

The County projection of $8,000,000 for the replacement of the 30.1-mile length of Old Spanish Trail Road translates to a per mile replacement cost of $265,781 per mile. This projection assumes that the entire length of Old Spanish Trail Road will be equally impacted by construction. As described above, however, the 3.4-mile segment of Old Spanish Trail Road from the HHSEGS to the Nevada state line will receive 95 percent of the traffic impacts and the 26.7-mile segment from the HHSEGS to Hwy 127 will receive 5 percent of the traffic impacts. The proportional replacement cost per mile can be determined by using the County's cost per mile and multiplying it by the percentage of impacts that segment of road will receive. So, for the 3.4-mile segment from HHSEGS to the Nevada state line, $265,781/mile is multiplied by 0.95 to give a proportional replacement cost per mile of $252,492. For the 26.7-mile segment from the HHSEGS to Hwy 127, $265,781/mile is multiplied by 0.05 to give a proportional replacement cost per mile of $13,289. Multiplying each by the mileage of each segment we find a total proportional replacement cost for the 3.4-mile segment to be $858,473 and a total proportional replacement cost for the 26.7-mile segment to be $354,816, for a grand total of $1,213,289.

For the sake of simplicity, this calculation assumes that car and truck trips damage the road equally, which is empirically untrue (General Accounting Office, 1979). If truck trips were weighted more heavily in the calculation, then because trucks only travel on the 3.4-mile segment to the Nevada state line, the proportion of traffic impacts to the 3.4-mile segment would increase, approaching 1.0, while the proportion of traffic impacts to the 26.7-mile segment would decrease, approaching 0.0. If the proportion of traffic impacts to the 3.4-mile segment comes close to 1.0, the proportional replacement cost increases near $265,781/mile, giving a total replacement cost for the segment from HHSEGS to the Nevada state line of $903,655 while the replacement cost for the segment from HHSEGS to Hwy 127 nears $0. Consequently, while truck trips obviously cause more road damage than car trips, for the County the more conservative estimate utilizes the assumption that car and truck trips are weighted equally.

Inyo County Public Works department anticipated that the maintenance required for the 30.1-mile length of Old Spanish Trail Road during construction and afterward during operation would require an additional staffing position, a medium sized front end loader and a pick-up truck. As replacement and maintenance activities would disproportionately occur on the 3.4-mile segment from HHSEGS to the Nevada state line, little more than 10 percent of the 30.1-mile length of Old Spanish Trail Road, it is expected that current Road Department staff and equipment would be able to accommodate the additional maintenance burden. With 95 percent of traffic coming and going from SR 160 along Old Spanish Trail Road, no additional Public Works staffing or equipment would be necessary.

Information Services

Construction activities at the HHSEGS will draw a maximum of 1,033 workers to the project area for the duration of construction, requiring the temporary installation and maintenance of information infrastructure in the Tecopa/Shoshone area for the duration of construction (County of Inyo, 2012; BrightSource Energy, Inc., 2011a). While it is expected that the communications tower proposed as part of the project would be sufficient for communication needs directly related to the HHSEGS project, additional infrastructure will be required to accommodate additional County Services. Based on ongoing AT&T monthly charges for County workstations, the County's Information Services projected cost for the duration of construction appears reasonable (County of Inyo, 2012).

Agricultural

While the costs projected by the Agricultural Commissioner appear consistent with weed management costs for other projects, it should be noted that all the power plant projects reviewed included Conditions of Certification requiring the Applicants to develop and implement weed management plans (County of San Luis Obispo Department of Planning and Building, 2011a; County of San Luis Obispo Department of Planning and Building, 2011b; California Energy Commission, 2010a; California Energy Commission, 2010b; California Energy Commission, 2010c; California Energy Commission, 2010d; California Energy Commission, 2010e; California Energy Commission, 2010f; California Energy Commission, 2010g; California Energy Commission, 2010h; California Energy Commission, 2010i; California Energy Commission, 2009a; California Energy Commission, 2009b; California Energy Commission, 2008; California Energy Commission, 2006a; California Energy Commission, 2006b; California Energy Commission, 2000; California Energy Commission, 1999). With the inclusion of Conditions of Certification as described in **BIOLGOCIAL RESOURCES** section of the Hidden Hills **PSA**, requiring HHSEGS to develop and implement a weed management plan, it is expected that additional weed management by the County will not be necessary.

Waste Management

At this point in the planning process, it is unclear how construction worker housing may be accommodated in the area, but as discussed above, it appears sufficient housing is available within commuting distance to accommodate the workforce. No such camp has been constructed at Ivanpah SEGS which is similarly remote. While a 300-space RV park to provide housing for project employees could require waste disposal services during the 30-month construction period, these plans are speculative, but sufficient for inclusion in this cost estimate (County of Inyo, 2012). Other similar projects have developed Temporary Construction Worker Accommodations Areas in which the Applicant was responsible for waste management (County of San Luis Obispo Department of Planning and Building, 2011a; County of San Luis Obispo Department of Planning and Building, 2011b). Without better knowledge of the construction labor force, these costs are uncertain and could be lower or higher. The **WASTE MANAGEMENT**

section of the Hidden Hills **PSA** addresses issues of waste disposal services. At this time, the Staff believes that no additional costs will be incurred by the County for this project.

Motor Pool

The projected cost estimates provided for the Inyo County Motor Pool ($66,000 during construction) appear consistent with costs determined for other projects (BrightSource Energy, Inc., 2011a). However, the Commission is fully responsible for all compliance and inspection during both construction and operation, so the County need not incur any costs to visit the work site or the operating facility.

Water Department

While Water Department costs for oversight and monitoring appear consistent with costs determined for other projects, the costs for plan and model development would be borne by the HHSEGS project. Additionally, it seems presumptive to assume that the County would lose grant funding as a result of the project based on increasing the risk of being deemed ineligible. This would eliminate the Water Department costs of $145,000 during construction, while keeping the $8,000 annual cost. The **WATER SUPPLY** section of the Hidden Hills **PSA** addresses issues of groundwater monitoring.

5.2 Changes in Indirect County Expenditures

Beyond the direct public safety and health protection services discussed above, the solar project could result in changes to local governmental expenses, primarily in two ways. The first is increased spending induced by increased population. The second is decreased spending caused by improved socio-economic conditions.

The first set is associated with an increase in the number of employees located in Inyo County who could be new residents. These indirect increases include both the public facility development costs identified for impact fees and other general governmental service costs such as health and social services, recreation, judiciary and detention, and permitting and licensing. These costs generally increase with the population, or with a related metric such as daytime workforce population. The usual underlying economic assumption in the studies that develop these costs is that the local economy is in a stable equilibrium represented by long-term averages that relate county expenditure growth to population growth. In turn, this assumption implies that increased employment leads to both increased jobs for current residents and attraction of immigrants from other jurisdictions, which implies a growing population, and increased County government spending.

Given the extraordinarily high unemployment rate now being experienced which is expected to continue for several years, few employees at this project can be expected to be new residents. Combined with other communities in neighboring counties, there will be an available labor supply in proximity to the proposed solar project. The applicants' plans to employ up to 1,033 workers during the peak construction period should have a negligible impact on the County's current population of 18,546 and labor force of 9,550 as the majority of them will reside in

neighboring counties and the California Employment Development Department employment figures indicate that approximately 1,000 members of the labor force are unemployed. The existing County labor force will likely fill these new jobs where needed and project developers will not need to offer higher compensation to attract outside labor. The current situation is in contrast to recent history when construction labor costs escalated through the 2000s to attract an increase labor supply across geographic regions.

While the daytime population will be shifting from neighboring areas to the Charleston View area, so that demand on services will also shift to a currently underserved portion of the County, those services will still be rendered within the County boundaries. Building and operating the proposed solar project could increase County governmental expenditures on direct services, but the County's indirect costs in total are unlikely to increase as a result. For this reason, the County should not expect to experience higher costs for the public services beyond the direct service costs identified in Section 5.1 specifically for the proposed project.

The second set of potentially affected services is associated with decreased social welfare and public health services due to reduced unemployment and improved socioeconomic conditions, including higher income. While the relationships for the expenditures on the first set of services described above are well understood, the relationships for the expenditures on the second set of services are not. For example, the quantitative relationship between the number of unemployed and Inyo County health service expenditures has not been estimated and would require substantial analysis of the affected departments' budgets. For this reason, while the County should expect lower costs for social welfare and health services as a result of reduced unemployment, those savings cannot be estimated at this time.

5.3 Changes in Local Government Revenue

Local government revenue sources can be categorized into seven general types:

- property tax and property-related taxes and fees,
- local sales and use tax,
- vehicle license fees,
- fines and forfeitures,
- fees for services,
- other local taxes (e.g., transient occupancy tax, utility users tax, business license tax), and
- intergovernmental transfers.

California's cities and counties vary in the extent to which they rely on the above taxes and fees to support their functions due to the differing nature of their relationship with the state government, their responsibilities, and their authority.

Further, developing the proposed solar project will impact the various taxes and fees in different ways. Due to the specificity of the taxes, changes in property and sales taxes can be estimated on an incremental basis with information about changes in property values, projected sales, and the appropriate tax rates. Certain special taxes, such as the transient occupancy tax, also can be estimated using an incremental approach focused on the added

economic activity. Changes in other taxes are more readily estimated using the average revenue per County resident due to their less direct relationship to changes in population and business activity. Due to the complexity of the relationships between changes in economic activity and fiscal revenues, those changes have been estimated only where a direct relationship can be identified. For property and transfer taxes, and impact fees, these are derived solely from proposed project activities. For sales taxes, both the project construction costs and the indirect supply chain expenditures have been included in the calculation. Left out are the fines, licenses and special taxes such as transient occupancy, as well as the sales and property taxes from induced economic activity because those require a wider and detailed modeling of County economic activity.

5.3.1 Property Tax Impact

Although the active solar energy system portions of the proposed solar project would be excluded from the assessment of property taxes, pipes and ducts that are used to carry energy derived from solar are active solar energy system property only to the extent of 75 percent of their full cash value, and non-generating facilities would be assessed at their full value. For HHSEGS, the annual property tax avoided due to exemptions is roughly $22 million based on the cost estimates presented here. This translates to a total of $6.6 million that would have gone to the County services including the General Fund, libraries and roads. The land on which the project is located would be taxed at their newly assessed values, as well as the transmission interconnection facilities. The assumption is that the current “highest and best use” used for value assessment is agricultural, and that will change to an industrial activity definition with a new higher assessment upon transfer.

Changes in property taxes were estimated from the Deputy County Council’s data on tax allocation, property assessments and sales; exemption details from BrightSource; and the appropriate tax rates for each area, as reported by the County. Property tax is assessed on project land and equipment. Current property tax on project land was estimated using the assessed value of BrightSource project area parcels (Deputy County Council, 2012b). The parcels are assessed 1.0 percent, resulting in the pre-project parcels generating approximately $62,000 in property taxes annually, $18,000 of which goes to county services. With the construction under the proposed solar project, the value of the parcels will be reassessed and property taxes will be assessed accordingly. In addition, the assessed value of the plant facilities would be $2.18 billion for the project. Approximately 45 percent of the project property will be taxable non-solar property, of which 38 percent will be dual-use and, thus, taxable at 25 percent of full value and 7 percent will be fully taxable (BrightSource Energy, Inc., 2012). Based on these values, the proposed solar project is estimated to generate approximately $3.5 million in property taxes annually, a net increase of about $3.46 million over the total fiscal year 2010 amounts. Table 5-3 shows the increases in property tax revenues to the various agencies under current allocation rules after the land is leased and reassessed at the new purchase price. The County’s revenues would increase by about $1 million annually.

BSE has provided cost information regarding the non-generating facilities to be constructed as part of the project (BrightSource Energy, Inc., 2011a). The addition of new construction would also generate property tax revenue, although without the capital costs of the non-energy production components of the project, the additional revenue cannot be estimated. The structures subject to additional property tax not included here are listed in Table 5-4. These components would be taxed at their assessed value.

Table 5–3. Changes in Annual Property Tax Revenues with the Project Completed

Property Tax Revenues	County Allocation	Added Revenues
School districts	62.5%	$2,200,000
County Services	29.43%	$1,000,000
Incorporated cities	1.16%	$40,000
Special districts	6.91%	$240,000
Total	100%	$3,460,000

Source: Deputy County Council County of Inyo, 2012.

Table 5-4. Structures Subject to Additional Property Taxes

Structures	Square Feet
HHSEGS	
Visitor Center	23,637

Source: BrightSource Energy, Inc., 2011a

Table 5-5. Distribution of Sales and Use Tax

Purpose	Rate
State (General Fund)	3.94%
County Transportation Funds (ICLTC)	*0.25%*
State (Fiscal Recovery Fund)	*0.25%*
State (Local Public Safety Fund)	*0.5%*
State (Local Human and Health Services Fund)	*0.5%*
State (Local Revenue Fund 2011)	*1.06%*
City and County Operations	*0.75%*
County Special Districts Tax	*0.5%*
Total	7.75%

Source: BOE, 2012.

5.3.2 Sales and Transaction Taxes Impacts

In fiscal year 2009-10, Inyo County received over $1.2 million in revenues from its share of the sales and use tax (California State Controller, 2012). Table 5-5 shows the distribution of sales taxes collected within the County borders. The County receives 0.75 percentage point directly to its General Fund. A second component equal to 1.06 percentage points is deposited into the Local Revenue Fund 2011 in the State Treasury and then returned to the County General Fund. Two other components of 0.5 percentage points each are directed to criminal justice activities and human and health services under state law. Finally, the County imposes a tax 0.5 percentage points for a Special Districts. 0.5 percentage points go to County transportation funds, but these revenues are controlled by the Inyo County Local Transportation Commission (ICLTC), which consists of representatives from the Inyo County Board of Supervisors and Bishop City Council, as opposed to being directly controlled by the county, so these are not considered, conservatively, as part of the local share. The County thus receives 3.21 percentage points of the 7.75 percentage point sales tax revenue from the proposed project.

The proposed project is subject to sales and use taxes upon construction and operation, and the tax would be payable within the County per Board of Equalization Regulation 1826(b) (BOE, 2002). Sales tax revenues for the County are largely dependent on the final purchase price and designated “point of sale” for the proposed project, both of which are currently unknown.

However, the Applicant has made clear its desire to and intention of working with Inyo County to ensure that it maximizes the allocation of sales and use tax to the County (BrightSource Energy, Inc., 2012). In the past, BrightSource worked with the County of San Bernardino to maximize sales and use tax allocated to the unincorporated San Bernardino County stemming from construction of the Ivanpah SEGS project (07-AFC-05C). This indicates that it will likely follow through with its intentions and do the same for Inyo County. Furthermore, BrightSource noted that even if it designated the "point of sale" as nearby Pahrump, NV, it would still be subject to use tax in Inyo County.

Based on these assumptions presented by the proponents, the County government could receive $84.5 million in its local share of sales and use tax over the 29-month construction period based on the assumptions presented in this report. During operation, however, sales tax revenues from the project will be negligible because non-payroll O&M expenditures spent in the County amount to only $540,000 annually. Of the amount collected, only $2,900 would go to the county. The sales tax revenue generated for the County during the construction period is far greater than the potential county expenditures estimated by the County and by Staff. Because of this, the net present value of the project net impact is positive in both cases. This is true even if the amount of materials subject to local sales tax is cut in half.

The project will generate additional sales tax revenues for the County because the newly employed local workers will be spending some of their additional disposable income locally on various goods, such as food, appliances and clothing. We generated a rough estimate of how much sales tax revenue employees of the direct and induced jobs created by the project will generate through local spending. Employees of the 109 direct and indirect jobs resulting from project construction will generate over $2 million during the 29 month construction period, and employees of the 19 direct and indirect jobs created by operations and maintenance spending will generate nearly $43,000 annually during the 25 year operation period. The County has expressed concern that increased employment during the O&M period could double the local population, which would place a financial burden on the County services that are population dependent. While a doubling of the local population would indicate roughly 100 additional employees in the O&M period, over five times the increase in jobs predicted by the model, we estimated the sales tax generated by employee spending if employment rose to 100 and found that this would generate nearly $225,000 annually for the County. This would offset most of the estimated County costs induced by increases in population.

In addition, an education impact fee would be assessed on the administration building at a rate of $0.47 per square foot. This would generate another $11,109. We did not include property transfer tax revenues in our analysis because there will likely be no transfer of property for the proposed project. Currently, the applicant has not acquired any property for the project but is under an option to lease and has obtained the right of land. If the lease is carried out, as anticipated, there will be no property transfer tax revenues.

One question is whether the project might be excluded from the sales and use tax by the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) under the authority granted by the recently enacted Senate Bill 71 (Public Resources Code Section 26003,

et al.). It appears questionable whether the project would qualify in any case given the criteria listed by the CAEATFA emphasizing the requirement that "the project develops manufacturing facilities, or purchases equipment for manufacturing facilities, located in California" (CAEATFA, 2010). Nevertheless, the project owners must (1) apply for the exclusion to the CAEATFA and (2) demonstrate that the project would not have been constructed without the exclusion. The County can object to that exclusion and present a case in opposition. It is doubtful that the project would qualify for an exclusion because (1) the project has a power purchase agreement with PG&E and (2) the project is prepared to begin construction as soon as the Energy Commission approves it (assuming it is approved). Currently, BrightSource has stated that it is not operating the facility, and the vendor has not applied for such an exemption for this project. The vendor is not expected to going forward because it has not done so at Ivanpah (CEC, 2012c)

The solar project will have two additional economic impacts on the County's sales tax revenues that are not quantified in this study due to the complexity of the analysis. A balanced presentation of the added sales tax revenues requires a full accounting of the added governmental costs as well. Such an analysis is beyond the scope of this study. These additional economic impacts to County sales tax revenue include:

- First, developing the solar project will have an indirect, but positive, effect on complementary services in the vicinity. Businesses en route to the project sites, such as convenience stores and gas stations, stand to benefit from increased traffic moving through the area. A higher sales volume for these entities will lead to higher tax revenues for the County's share of the sales tax as well as other taxes (e.g., gasoline taxes). The value of these additional revenues with the County is unknown, and would be substantially larger during the construction period than during the longer operational period.
- Second, the increased sales tax revenues from the additional "rounds" of spending by the businesses supplying the solar project, their employees, and the induced spending on the overall economy are excluded in this analysis. This would depend on the local share of expenditures on project supplies.

6.0 Conclusion

The proposed project is expected to cost in the range of $2.95 billion in total to construct with direct material costs of approximately $2.5 billion. Using conservative assumptions about where plant components are assembled, it was determined that about $189 million of the total $1.5 billion in construction costs would be spent locally over five years. However, only $9.5 million (5 percent) would be spent within Inyo County, and the remaining $179.8 million (95 percent) would be spent in neighboring counties. This spending is expected to directly produce about 32 jobs within Inyo County, and induce another 77 positions. Such spending would increase County economic output by $73.8 million and earnings by $12.1 million.

Local spending on annual operating costs would be about $27,000. This spending will directly produce 120 jobs, with about 6 of the 120 positions being filled by County residents and the remainder commuting from neighboring counties. It would indirectly generate another 14 jobs. Annual County economic output would rise by $2.3 million and earnings by $1 million.

Based on County Agency estimates, the County would incur gross costs of $11.1 million during construction and $1.7 per year during operation on public safety and other services in the local area (Scenario 1). Staff estimates are more conservative and predict that the county would incur costs of $2.8 million during construction and $0.39 per year during operation (Scenario 2).

Table 6-1. Net Fiscal Impacts on Inyo County: 28 Years, Scenario 1

	Construction (3 Year Total)	Operation (Annual)	Net Present Value
Revenues	$86,500,000	$1,100,000	$92,200,000
Expenditures	$11,100,000	$1,700,000	$31,000,000
Net Impact	$75,400,000	($650,000)	$61,100,000

Table 6-2. Net Fiscal Impacts on Inyo County: 28 Years, Scenario 2

	Construction (3 Year Total)	Operation (Annual)	Net Present Value
Revenues	$86,500,000	$1,100,000	$92,200,000
Expenditures	$2,800,000	$390,000	$4,100,000
Net Impact	$83,700,000	$670,000	$88,200,000

Tables 6-1 and 6-2 summarize the net fiscal impacts during the construction and operational periods, and over the 28 year period of expected construction and operation for the two expenditures scenarios. The net present value represents the discounted sum of the cash flow of revenues and expenditures. A 5.2 percent “real” discount rate was used based on the current

yield on Inyo long-term debt and the inflation rate projected by prices on U.S. Treasury bonds (Big Pine Unified School District., 2010; FMS Bonds, Inc., 2012; Yahoo Finance, 2012; U.S. Department of the Treasury, 2012a; U.S. Department of the Treasury, 2012b).[4] During the three-year construction period, County agencies would receive between $75.4 and $83.7 million more than it expends. Once operational, the County would expend $650,000 annually more than it receives in Scenario 1 and receive $670,000 more than it expends in Scenario 2. Over the entire period, the County would gain about $61.1 to $88.2 million net present value. County gains would be positive even if the amount of materials subject to sales tax is cut in half.

Other County costs are not expected to change substantially. Population should remain unchanged as the local labor force, particularly for construction, is experiencing high unemployment and should be able to easily absorb the increased demand over the projected period. Social welfare and public health expenditures may fall as unemployment decreases and socioeconomic conditions improve, but those have not been quantified. This report did not estimate induced changes in County revenues from the increased economic activity, which could be significant given the reported economic changes under a reasonably expected to occur scenario.

This analysis has several key caveats which could alter the results and conclusion significantly if the situation changes. The first is that the overall cost estimates are based on published sources and only partially reflect the actual costs that will be revealed once the project is constructed and assessed by the County Assessor and Board of Equalization. The proportion of the project costs subject to taxation also could vary as (1) the amount of material sales subject to local sales tax could vary, and (2) the County Assessor may determine that differing proportions of the plants qualify for the property tax exemption. Perhaps the largest caveat is that the manufacturing plant for the mirrors will not qualify for a sales tax exemption as well. If that portion did qualify, the project could have a net negative direct fiscal impact on the County departments. And finally, the calculations of the local shares of property and sales tax are complex and uncertain due to changing fiscal conditions at the state level.

[4] The "real" discount rate is used for cashflows that are not adjusted for future inflation, as is the case here. The discount rate has the inflation rate subtracted out.

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